

EXHIBIT II

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COMEX

THE STATE INSTITUTE FOR DESIGNING PULP
AND PAPER ENTERPRISES (GIPROBUM)

The State Institute for Designing Pulp and Paper Enterprises (GIPROBUM) is the leading engineering organization of this branch industry. GIPROBUM is located in Leningrad.

During the years of its activity GIPROBUM organized branches in Moscow, Kiev, Riga and Irkutsk which have been considerably expanded and today act as independent engineering institutions.

In 1972 a new branch of GIPROBUM was started in the city of Archangelsk. Its staff has now reached about 100 people. On new construction sites as well as at some large existing mills undergoing expansion programmes GIPROBUM organized task-force departments or engineering teams.

GIPROBUM carries out complete projects and is staffed by engineers of all trades and professions which are necessary to work out a complete project of a pulp and paper mill.

GIPROBUM includes 13 engineering departments as well as Surveys' department, technical department, equipment department, technical information department, department of labour organization, bureau of project managers, library and archives.

GIPROBUM is a general designer of the mill as a whole, but sometimes it invites other specialized engineering organizations which act as sub-contractors in civil engineering, designing of power stations

pulp and paper mills in Archangelsk, Solikamsk and Kotlas, forest complexes in Bratsk and Syktyvkar. These mills are built and operated. In 1973 the construction of the Pulp Mill at Ust-Ilimsk was started. This mill was also designed by GIPROBUM and will have annual capacity of 500,000 tons of bleached kraft pulp. *Completion 7*

The Ust-Ilimsk pulp mill project provides for most modern process equipment and most up-to-date technological processes. Latest achievements of science and technology in environment protection are implemented in this project.

Along with designing large pulp and paper enterprises GIPROBUM carries out extensive engineering and investigation on long-term planning of this branch of industry.

GIPROBUM has great experience of cooperation with Swedish, Finnish, English, French, Japanese and other firms in designing enterprises in the Soviet Union.

An example of such cooperation with foreign firms is the expansion project of the Svetogorsk pulp and paper mill which is carried out at present. This project provides for supply of process equipment by foreign firms as well as their participation in designing this mill.

In the Socialist countries there are several pulp and paper mills which were built to GIPROBUM's projects and equipped mainly by the Soviet-made equipment.

GIPROBUM's General Manager is Mr. Semin Y.F.

GIPROBUM's Chief Engineer is Mr. Tsvetkov I.D.

GIPROBUM, LENINGRAD

Tuesday, 15 April 1975

TSVETKOV I.D. - Chief Engineer

SAVGIRA N.E. - Senior Expert in Effluent
Treatment

PONOMAREV O.I. - The Chief of Technical
Information Department

TABLE I

Fishery Requirements. Biologically Based Concentrations
of Organic Components of Industrial Effluents from Kraft Mills

<u>Component</u>	<u>Mg/l Maximum Allowable</u>
Phenol	0.5
O-cresol	0.5
Guaiacol	1.0
Vanillin	1.0
Pyrocatechol	0.01
Resorcinal	0.01
Pyrogallol	0.01
Hydroquinone	0.01
Na ₂ SO ₄	0.5
DMS	0.0005
DMSO	0.05
Dimethyl Sulfone	0.5
Acetone	0.5
Furfural	0.2
Tupentine	1.7 - 5.0
Methanol	1.5
Sulfate Soap	1.0
Polyacrylamide	2.0
Sodium Formate	2.0
Sodium Acetate	1.0
Sodium Oxalate	2.0
Sulfate Lignin	300
Al ₂ (SO ₄) ₃	1.5
Resinous Subst.	2.0
Tannins	10.0
Oil and/or products in dissolved and emulsified form	.05

Below in Tables 1 and 2 are the general requirements for the composition and characteristics of the waters of aquatic bodies at places where drinking and everyday use is intended and for aquatic bodies used for fishing. The requirements are taken from the above-mentioned rules:

TABLE 1

Indicators of the composition and characteristics of the water of the aquatic bodies:	TYPE OF USE	
	For central and non-central everyday-drinking water supply and also for water supply of food enterprises.	For swimming sport and recreation of the population, and also for aquatic bodies in settled areas.
1 Suspended solids:	2 Not more than: .25 mg/l	3 .75 mg/l
	For water bodies containing in their borders more than 30 mg/l of natural mineral substances an increase of S. S. up to 5% is allowed.	
	Suspensions with a falling-out speed of more than .4 mm/sec for moving water bodies and more than .2 mm/sec for reservoirs are not allowed to be discharged.	
Floating Pollutants/ Substances:	On the surface of the water body there should not form floating film, mineral oil spots, and dumping of other pollutants.	
Odors and Tastes:	Water should not acquire odors or tastes of an intensity greater than 2 points, disclosed: Directly or after subsequent chlorination Directly	
	Water should not give other smells or tastes to the meat of fish.	
Color:	Should not be revealed in a column of: 20 cm 10 cm	
Temperature:	Summer temperature of the water as a result of the discharge of effluents should not be increased more than 3 degrees C. over the maximum temperature of the water body during the summer.	

Reaction:

Should not go beyond the limits

6.5 - 8.5 pH

Mineral Composition:

Should not exceed on
the basis of solid
residue 1000 mg/l

Standards are met by
indicator shown under
"tastes"

1 nc

Chlorides 350 mg/l

and

sulphates 500 mg/l

Dissolved Oxygen:

Should not be less than 4 mg/l during any period
of the year in a sample taken at 12 noon

BOD:

Total demand at 20 degrees C. should not exceed

3.0 mg/l

6.0 mg/l

Disease Carrying
Organisms:

Water should not contain disease containing
organisms.

Effluents, containing such, must be disinfected
after preliminary treatment.

Methods of disinfection and preliminary treatment/
mechanical or biological are agreed upon with the
organs of the State Sanitary Inspection in each
separate instance.

Poisonous Substances:

Are not to be present in concentrations which
could directly or indirectly harm the organisms
and health of the population.

TABLE II

Indicators of the composition and characteristics of the waters of the aquatic body	Aquatic bodies used for the keeping and production of valuable types of fish, which are very sensitive to oxygen	Aquatic bodies used for all other fishing industry purposes.
Suspended solids:	Content of SS, in comparison with natural content, should not increase more than:	
	25 mg/l	.75 mg/l
	For aquatic bodies, containing in their borders 30 mg/l of natural mineral substances, an increase of up to 5% is allowed.	
	Suspension with a falling-out rate of more than .4 mm/sec for moving aquatic bodies and of more than .2 mm/sec for reservoirs cannot be discharged.	
Floating pollutants substances:	On the surface there should not appear films of oil products, oils, fats and other pollutants	
Color, Odors, and Tastes:	Water must not acquire foreign smells, tastes, colors and not give them to the meat of fish.	
Temperature:	Temperature of the water should not increase in the summer by more than 3 degrees C. in winter by more than 5 degrees C.	
Reaction:	Should not go beyond the limits of 6.5 - 8.5 pH.	
Dissolved Oxygen:	In the winter, under ice, period should not be below	
	6.0 mg/l	4.0 mg/l
	In the summer/open/period in all aquatic bodies it should not be below 6.0 mg/l in a sample taken at 12 noon.	
BOD:	5-day demand at 20 degrees C should not be more than	
	2.0 mg/l	2.0 mg/l

If in the winter period, the amount of dissolved oxygen in the water of the aquatic body for the first type of use decreases to 6.0 mg/l and in aquatic bodies of the second type to 4.0 mg/l then discharge is allowed if only those effluents that do not change the BOD of the water.

Poisonous Substances:

Should not be present in concentrations that could directly or indirectly have a harmful effect on fish and aquatic organisms, serving as feed for the fish.

Besides these general requirements, in the Rules for the Protection of the Surfaces of Waters from Pollution by Waste Water there are established maximum permissible concentrations for 294 types of pollutants for waters of aquatic bodies for sanitary-everyday use and 28 for aquatic bodies used by the fishing industry.

The Soviet escorts accompanying the group were:

1. Victor Shagaev, Department Manager, Giprobum
2. Yuri E. Kazakov, Expert, The USSR-US Soviet Committee on Environmental Cooperation, Main Administration of Hydrometeorological Services of the USSR

Under Project II-2.2, Prevention of Water Pollution from Industrial Sources, this is the first of the four industry subgroups where the exchange has been completed in both countries. The writer has previously escorted three of the industry subgroups on their respective tours of the United States. Certain first-hand observations can now be made regarding the outlook of the U. S. and U.S.S.R. on these exchanges.

Most importantly, the Soviets are as serious as the Americans on this exchange of environmental technology. Further, the message of detente between our two peoples is crystal clear. It is obvious that they are under the same instructions as we are when escorting the Soviets around the United States. Every effort is made to enhance our material comforts as regards lodging and travelling to the best of their resources. The cultural exchange is very complete and they seem to take pride in escorting the delegations through museums, places of interest, their theatres, etc.

To emphasize the seriousness, it should be noted that at every visit they hosted a lunch or a dinner and presented nominal gifts to the delegation members. It should further be noted that our initial briefing was conducted in Moscow by the 1st Deputy Minister of the Pulp and Paper Industry, Mr. N. Chistiakov who was also serving as a minister due to the illness of the minister. That evening, the acting minister hosted a dinner in honor of the U. S. delegation. On our departure, the ministry conducted our final critique and hosted a farewell cocktail party in our honor at the Moscow Airport. As an overall comparison, they extended as much effort as we do to insure success of the mission.

The report on the technical aspects of the mission is enclosed. The Soviets were completely cooperative both in the tours and the questions we generated at the critiques. In addition, there are certain other attachments I have included, such as the itinerary, and a write-up on Giprobum which is the state institute for designing pulp and paper enterprises for the entire Soviet Union. Also included are two tables, one covering fishery requirements on effluents from Kraft Mills and the other covering guidelines on effluents from paper and pulp mills depending on whether they emptied into bodies of drinking water or waters used for recreational purposes. We were fortunate to get this table which was part of a confidential report that they would not release.

I would point out that having a U. S. interpreter along as part of the delegation is invaluable. The Soviet Union is not like any other country that I have ever visited. I feel that relying on the Soviet interpreters only would be synonymous to flying blind. Another point to keep in mind for our delegations is the subject of liquor. They seem to encourage excessive drinking especially when away from the main cities and delegation members should be forewarned.

In closing, it would be an understatement to say that this was not an incredible experience and education. We covered twenty thousand kilometers exclusive of the round trip to Moscow and went from the Black Sea (80°F) to Bratsk in Eastern Siberia (-10°F). Our delegation was pleased that it was already Spring for the Siberian portion of the trip.

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Andrew Paretti

Office of Water Programs

VISITING CHRONOLOGY

PLACE OF VISIT	DATES	
	FROM	TO
USSR	April 11,	April 27, 1975

PURPOSE OF TRIP

Reciprocal Visit of Pulp/Paper Industry to Soviet Union

PRINCIPAL INSTITUTION OR INDIVIDUAL VISITED

Ministry of the Pulp and Paper Industry of the USSR

FUTURE ACTION REQUIRED AS RESULT OF TRIP

TYPE OF ACTION	RESPONSIBLE OFFICE

SUMMARY IN 200 WORDS OR LESS (Continue on reverse if necessary)

This trip comes under Project II-2.1 of the Environmental Agreement. Our Working Group on the Prevention of Water Pollution from Industrial and Municipal sources is the sponsor. The delegation was headed by Andrew Paretti and was on a receiving side pays basis. We hosted the Ministry of Pulp and Paper in May 1974 on a tour of Pulp and Paper plants throughout the United States. The trip took us to seven Soviet cities where we visited one ministry six institutes and four pulp and paper plants. The Soviets extended every courtesy and were most responsive to specific questions. The exchange of information was very complete. It is obvious that this ministry has put the highest priority on the project. It is quite apparent from their official toasts and informal conversations, that their national policy is to pursue this program vigorously and to use it as a vehicle to extend the mutual era of detente between our two countries.

Deputy Minister N. N. Chistiakov who is first deputy of the Ministry of the Pulp and Paper Industry of the USSR gave us an official welcome and personally handled the opening briefing and conducted the closing critique. They are very interested in pursuit of this exchange and we are presenting our suggestions for such a continuation in the near future. Preliminarily, we will be planning a symposium for next year followed by an exchange of one or two specialists for a period of 30 to 90 days to study a mutual problem on site in each country, receiving side pays.

It is to be noted that the Soviets make a great effort to insure that at every city enroute the main points of interest are explained. They use this as a vehicle to extoll the accomplishments of their socialist form of government.

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